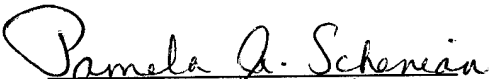


A Phase I Cultural Resources Survey  
of Five Proposed School Gymnasium Project Areas  
on the Fort Knox Military Reservation,  
Hardin and Meade Counties, Kentucky

Prepared by:

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November 1994

  
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## ABSTRACT

In June 1994, the Fort Knox cultural resource management staff conducted a Phase I cultural resources survey of five proposed school gymnasium project areas in the cantonment area on the Fort Knox Military Reservation, Hardin and Meade Counties, Kentucky. The schools involved are Mudge, Van Voorhis, Kingsolver, Scott, and Pierce.

The Scott, Pierce, and Kingsolver project areas were determined to be previously disturbed through a literature review, and were not examined for archaeological resources. A Phase I archaeological survey was conducted of the Mudge and Van Voorhis project areas, resulting in the recording of one archeological site, 15Md377, in the Mudge school gymnasium project area. Site 15Md377 is a late nineteenth century to early twentieth century farmstead with a prehistoric component of indeterminate cultural-temporal affiliation. It is not eligible for the National Register due to extensive previous disturbance, and no additional archaeological work is recommended at the site.

The proposed Scott, Pierce, Van Voorhis, and Mudge gymnasiums project areas are not located in the vicinity of any buildings over 50 years old, therefore, no effect to buildings potentially eligible for the National Register will result from their construction. The proposed Kingsolver gym lies within an identified historic district which qualified architectural historians have recommended as eligible for the National Register. The proposed Kingsolver gym will have no adverse effect on this possible district, however, because it will match the existing buildings in the Kingsolver complex, because the exterior characteristics of buildings in the Kingsolver complex match (in general) the characteristics of nearby historic buildings, and because landscaping visually separates the school complex from the contributing structures of the district on the south and east.

It is recommended that the installation be permitted to construct the gymnasiums as proposed.

## MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other federal laws and regulations, the Fort Knox cultural resource management staff conducted a Phase I cultural resources survey of five proposed school gymnasium project areas in the cantonment area on the Fort Knox Military Reservation, Hardin and Meade Counties, Kentucky. The schools involved are Mudge, Van Voorhis, Kingsolver, Scott, and Pierce.

The Scott, Pierce, and Kingsolver project areas were determined to be previously disturbed and were not examined for archaeological resources. A Phase I archaeological survey was conducted of the Mudge and Van Voorhis project areas, resulting in the recording of archaeological site 15Md377 at Mudge. Site 15Md377 is not eligible for the National Register, and no additional archaeological work is recommended.

The proposed Scott, Pierce, Van Voorhis, and Mudge gymnasiums are not located within view of any buildings over 50 years old, therefore, no effect to buildings potentially eligible for the National Register will result from their construction. The proposed Kingsolver school lies within an identified historic district which qualified architectural historians have recommended as eligible for the National Register. The proposed Kingsolver gym will have no adverse effect on this possible district, however, because the exterior design matches characteristics of the existing buildings in the Kingsolver complex and of nearby historic buildings.

It is recommended that the installation be permitted to construct the gymnasiums as proposed.

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## I. INTRODUCTION

In June 1994, the Fort Knox Cultural Resource Management (CRM) staff performed a Phase I cultural resources survey of five proposed school gymnasium project areas at Fort Knox, Hardin and Meade Counties, Kentucky (Figures 1 and 2). The proposed construction area for each of the gyms was approximately 2 acres (0.81 ha). Surface reconnaissance of areas approximately 2 acres in size were performed at the Mudge school and the Van Voorhis school.

The cultural resources survey conducted in preparation for the construction activities was required to comply with the National Environmental Protection Act, or NEPA (Public Law 91-190), the Historic Preservation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40.

During 1993, the Fort Knox Staff Archaeologist obtained all the documents necessary to perform Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps), and these are on file at the Cultural Resource Management Branch of the Directorate of Public Works, Fort Knox. No file check was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project.

A literature search revealed that the proposed gym areas had not been surveyed previously. Examination of various editions of 7.5 minute Fort Knox topographic quadrangles and 15 minute Vine Grove quadrangles indicated a series of building and demolition episodes had taken place in the proposed gym areas of the Kingsolver, Pierce, and Scott schools, thus eliminating the possibility of undisturbed deposits. The Van Voorhis and Mudge project areas had not been sites of previous military buildings and had not been subject to previous archaeological survey, therefore, they were field inspected in their entirety in the current study.

The proposed school gym areas are located in the Plain section of the Pennyryle cultural landscape. The areas are on the karst upland plain. Elevation in the project areas range from 700 to 740 feet. Soils in all of the project areas are Nicholson silt loam (U.S. S.C.S. n.d.; Arms et al. 1979). Drainage in the area of the Mudge school is mostly into sinkholes, and the North Fork of the Dry Branch of Otter Creek is 650 m to the east. Some surface water flows into intermittent tributaries of Otter Creek at Van Voorhis school and into intermittent tributaries of Mill Creek at Scott school. Some drainage at all of the schools is into urban storm water systems.





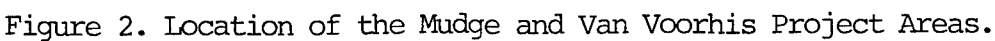


Figure 2. Location of the Mudge and Van Voorhis Project Areas.

At the time of survey, project specifications were available for viewing by the CRM staff, although a set was not available solely for the use of the CRM staff. Project design was at the the 60 percent level at the time of survey. Copies were made of the 1 foot contour interval maps of the Mudge and Van Voorhis project areas, which would need archaeological surveys. These maps delineated the project boundaries. The surface reconnaissance of the proposed Mudge and Van Voorhis gymnasium project areas was performed by the Cultural Resource Management Branch staff (Pamela Schenian, Stephen Mocas, and Mike Sieftring) on June 29, 1994. A total of 6.0 person hours were spent in the archaeological survey of the Mudge and Van Voorhis project areas. A brief visit was made by Schenian and Mocas to the Kingsolver school on November 9, 1994, to photograph the existing buildings and environs and to take notes on the external characteristics of buildings within view of the proposed gym site.

The artifacts from the survey were washed and catalogued by student assistants at the University of Louisville Program of Archaeology. The prehistoric artifacts were analyzed by the Assistant Staff Archaeologist. The historic artifacts were analyzed by the Staff Archaeologist. The artifacts and the documentation for this project will be curated at the Program of Archaeology, University of Louisville, on a "permanent loan" basis, under contract number DABT 23-93-C-0093, for curatorial and technical support (copy of contract on file, DPW, Fort Knox, Kentucky). Duplicate copies of the documentation will be stored at the Directorate of Public Works (DPW), U.S. Army Armor Center and Fort Knox, Fort Knox, Kentucky.

## II. SETTING AND ENVIRONMENTAL BACKGROUND

O'Malley et al. (1980) have prepared a detailed description of the setting and environmental background of the Fort Knox base as a whole. This section will concentrate on the topographic characteristics of the proposed gym areas inspected in the current study.

The proposed school gyms are located in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35). The areas are on a karst upland plain of low local relief, numerous sinkholes, and few surface streams (McGrain and Currens 1978:54). The Van Voorhis and Mudge schools are in the karst upland west of the North Fork of the Dry Branch of Otter Creek.

The Whitworth Site, 15Md377, in the proposed gym area of the Mudge school, is west of a shallow drainage that flowed into a sinkhole to the southeast, and there is a sinkhole to the west. Drainage in the area of the site is mostly into sinkholes, and the North Fork of the Dry Branch of Otter

Creek is 650 m to the east. Elevation of the site is 710 feet, and the soil is Nicholson silt loam (U.S. Soil Conservation Service n.d.). The Mudge and Van Voorhis gym project areas were in mowed grass, and small areas have been devegetated by the patter of little feet.

Because the proposed gyms will be additions to existing building complexes, many of the topographic features of the areas have been modified to some degree from the pre-installation conditions. This modification has included minor to severe grading, alteration of drainage patterns, and removal of most vegetation other than mowed grass and scattered large trees.

### III. PREVIOUS RESEARCH

Approximately 26,000 acres of the Fort Knox installation have been surveyed, primarily in cultural resource management (CRM) studies. Schenian and Mocas (1994) summarize the archaeological studies conducted on or near the installation through August 1994. This section will focus on the previous research conducted in the vicinity of the five project areas of the current study.

No archaeological surveys have been conducted within 1 km of the Kingsolver school. No archaeological sites have been reported within 1 km of the Kingsolver school.

Two archaeological surveys have taken place within 1 km of the Scott and Pierce schools. O'Malley et al. (1980) surveyed portions of Hunting Areas 57 and 72, which are located just outside the cantonment area on the east side of Wilson Road, and the Fort Knox CRM staff surveyed an additional portion of Hunting Area 57 (Schenian 1994). Sites 15Hd134 and 15Hd491, were recorded in Hunting Area 57 and both are over 1.3 km from either school. No sites were recorded in the portion of Hunting Area 72 surveyed.

Only one archaeological survey has been performed within 1 km of the Van Voorhis school. Sorensen and Ison (1979) surveyed a proposed expansion of the South Central Bell facilities, 0.6 km southeast of the current project area, and an access road, recording no sites.

Several archaeological surveys have been conducted within 1 km of the Mudge school. In addition to the Sorenson and Ison (1979) survey of the South Central Bell facilities and access road, surveys were conducted by O'Malley et al. (1980), Schenian and Mocas (1992), and Schenian and Mocas (1993). These surveys recorded 15Md154-15Md156, 15Md161, 15Md162, 15Md326, 15Md336, and 15Md337 within 0.7 to 1.5 km of Mudge. Additionally, Funkhouser and Webb (1932) described 15Md10, a mound group, 0.7 km northwest of Mudge.

#### IV. SURVEY PREDICTIONS

Based on previous archaeological and structures research on the installation, the history of settlement, and the environmental setting of the project areas, the following results were expected:

- 1) Three of the proposed gymnasiums (Kingsolver, Pierce, and Scott) are located in areas which have been subject to multiple episodes of building and demolition since Army acquisition. These areas were expected to be so disturbed that they were not surveyed for archaeological materials.
- 2) All five proposed gym locations lie in the portion of the installation purchased in 1919. The 1919 land acquisition maps show the building locations, in addition to land boundaries. The Mudge School is located on a known historic farmstead. Although the majority of the buildings known to have existed at this farmstead were located under the existing buildings in the school complex, remnants of the site were expected in the proposed gymnasium site. The other four gyms are located some distance from any known historic structure locations, and all probably would have been in farm fields at the time of acquisition.
- 3) Some former property owners opted to relocate their structures to their new properties off the installation, and the Army removed most pre-installation standing structures for liability reasons. Therefore, few historic structural ruins are expected.
- 4) Historic sites frequently also have prehistoric components, suggesting that some topographic characteristic made the location desirable to both prehistoric and historic inhabitants.
- 5) Previous archaeological research on and near the installation has demonstrated a very high density of sites in the uplands adjoining the Otter Creek drainage system (Hale 1981; O'Malley et al. 1980; Schenian and Mocas 1994), the environmental setting of the Mudge and Van Voorhis schools, but a very low density of sites near the margin of the karst plain and the dissected uplands (O'Malley et al. 1980; Schenian 1994; Mocas 1994). Kingsolver, Pierce, and Scott schools are located in

the karst plain near the boundary with the dissected uplands.

## V. RESEARCH METHODS

### Literature Review

Prior to the initiation of fieldwork, a literature search was conducted for each project area. A set of topographic quadrangles at the Fort Knox CRM office depict all known surveys and site locations, and are updated on a regular basis. These were checked for information about previous studies and known site locations in the vicinity of each project area, as summarized in the previous research section. Another set of maps, marked with the historic property boundary information and known historic building locations, were inspected for information about potential historic archaeological sites. In addition a number of maps and aerial photographs were examined to determine the degree of previous disturbance in each project area. The sources examined include: editions of the Fort Knox 7.5 minute topographic quadrangle dated 1950, 1953, 1960, and 1991; editions of the Vine Grove 15 minute topographic quadrangle (which encompasses the Fort Knox 7.5 minute quadrangle area) dated 1950, 1966, and 1977; and aerial photographs from 1946 (on the back of the 1950 7.5 minute topographic quadrangle) and 1992 (on file at the CRM office).

For information about the ages and potential significance of buildings located within the viewshed of each project area, a map which color codes each building by decade of construction, a map which color codes each building by assessment status, and the real estate facilities list were examined. Grandine et al. (1994) was also examined for information about the buildings documented in that study.

### Field Methods

As a result of the literature review concerning potential previous disturbance, it was determined that the Kingsolver, Scott, and Pierce project areas, in the interior of the cantonment, were previously disturbed to the extent that archaeological surveys were not required. The Van Voorhis and Mudge project areas at the edges of the cantonment area could not be determined to have been previously disturbed and require field inspection for archaeological resources.

Both the Mudge and Van Voorhis project areas were in recently mowed grass, with many open patches around playground equipment, in erosion runnels, in paths, and along the driplines of trees and eaves. Ground surface visibility was highly variable, but averaged 50 percent in both areas.

In general, the proposed Mudge and Van Voorhis gymnasium project areas were systematically walked in transects at paced 5 m intervals to take advantage of available open ground surfaces and avoid shovel testing as much as possible in these areas for liability reasons, in view of their heavy usage by small children. No areas that could not be adequately inspected via walkover at the site discovery level using the 5 m interval were encountered in either project area. The project areas inspected encompassed the footprint of the proposed gymnasium and all adjoining areas which could be potentially impacted by the movement of heavy machinery during the construction work.

Upon discovery of archaeological materials at the Mudge project area, the ground surface of the area around the find was walked in transects spaced at 2 m intervals, until no additional materials were recovered for a distance of 20 m within a transect. Figures B-1 to B-3 in Appendix B depict the location, plan view, historic property map, and a representative soil profile of the site (15Md377) encountered in the proposed Mudge gymnasium site.

Inspection of the ground surface of 15Md377 indicated that most of the area had been heavily disturbed and scraped to subsoil when the school was originally built in 1961. Only a limited area of the site had topsoil. Two shovel probes were excavated in this area with topsoil. Each shovel probe excavated was approximately 30 cm square at ground surface and excavated to a depth of at least 30 cm, or until sterile subsoil was encountered. The walls of each STP were scraped and inspected for evidence of archaeological materials or deposits. The fill from each shovel probe was screened through one-quarter inch hardware cloth, prior to backfilling of the probes. The probe holes were then filled in as completely as possible.

## VI. ARTIFACT TYPOLOGY AND MATERIALS RECOVERED

The following paragraphs summarize the artifact typologies used in the sorting and analysis of the artifacts recovered during this project, and describe specific artifacts recovered in greater detail.

### Prehistoric Artifact Typology

The only prehistoric materials recovered in this project are chert debitage. Chert debitage is a category used to describe the material generally created as a by-product in the manufacture of more formally defined chipped stone tools. Chert debitage may be further divided into the categories of flakes, blocky chert pieces, microflakes, and

chert shatter. It may also be classified by stage of manufacture and by evidence for use as an informal, or expedient, tool. The following criteria have been applied to sort the chert debitage collected in this study:

- 1) Flakes are defined by the presence of a striking platform and bulb of percussion. Concentric rings or ripple marks on the ventral surface, and feather terminations may also be present. Flakes are classified as primary flakes if 90 percent or more of the dorsal surface (the side opposite the bulb of percussion) is covered by cortex or rind; as secondary flakes if one to 90 percent of the dorsal surface is covered by cortex; and as tertiary flakes if no cortex is present on the dorsal surface.
- 2) A chert piece is classified as shatter if it exhibits flake-like characteristics, but is insufficiently complete to classify the piece as a primary, secondary or tertiary flake. Usually, the striking platform is missing.
- 3) A blocky chert piece is an angular chert piece lacking flake-like characteristics, and lacking evidence of having served as a core.
- 4) A microflake is a complete flake that is less than 6 mm in length and is, generally, the product of fine retouch or resharpening of tools.
- 5) A piece of chert debitage is classified as utilized if at least three contiguous small flakes have been removed from one or more edges by use rather than retouch.
- 6) A piece of chert debitage is classified as unutilized if it exhibits no evidence of the removal of small flakes through use.

The 11 pieces of chert debitage collected from 15Md377 consist of four tertiary flakes and seven pieces of chert shatter. All 11 pieces are unutilized.

### Historic Artifact Typology

South (1977:95-95) defined a system of artifact classification based on function. Under South's system, for example, ceramics and bottle glass are kitchen group artifacts, and flat glass, and drain tile are architectural group artifacts.

## **KITCHEN GROUP**

### Ceramics

Historic ceramics are divided into coarse earthenware, stoneware, ironstone, refined earthenware, semi-porcelain, and porcelain. Coarse and refined earthenware have the most porous paste, stoneware and ironstone have less porous paste, and semi-porcelain and porcelain have the least porous paste. Each of these broad categories is further divided into more specific types based on paste texture and color, glaze characteristics, and decoration (Maples 1991). Only refined earthenware was recovered in this project. All of the refined earthenware collected in this project is whiteware, i.e., earthenware with a white paste. Six whiteware sherds were recovered from 15Md377. All are small, undecorated sherds. Whiteware dates from 1830 to 1890 (Smith 1983:171).

### Glass

Glass kitchen artifacts are divided into three main categories. These are bottles, dishware, and canning jar lid liners. Only two bottle glass fragments were recovered in this project which could be attributed to the Whitworth site, although numerous pieces of modern soda bottles were present on the school's play area. The two historic bottle glass fragments are solarized amethyst glass. Amethyst bottle glass dates from ca. 1880 to 1914 (Newman 1970: 70-75).

## **ARCHITECTURAL GROUP**

### Drain Tile

One segment of ceramic drain pipe was recovered. It is probably from a pipe leading to a cistern, which would have been destroyed or heavily damaged when Mudge School was built.

### Flat (Window) Glass

Two fragments of green window glass were recovered from the Whitworth Site. Although it is possible that they derive from broken windows at Mudge School, the glass fragments were found on a side of the school without windows, and the glass appears to be too old to have been used in the school.



## VII. STANDING STRUCTURES DATA

Van Voorhis and Mudge Project Areas

The Van Voorhis school was built in 1958 and the Mudge school was built in 1959. Both schools have had annexes or separate buildings added to the complex since their original construction. Playgrounds were constructed in 1967 at both schools. These two schools, with the Walker Junior High School, serve the Van Voorhis Manor housing complex. Walker Junior High School, located across Conroy Street from Van Voorhis School, was constructed in 1962. The apartment buildings in this neighborhood were built in 1959. The apartment buildings are red brick, two-story, multiple unit (primarily four-plexes) buildings of a type common to most urban area lower and middle class neighborhoods of this era. No buildings over 50 years old are located within the viewshed of either gym project area.

Scott and Pierce Project Areas

Scott school was constructed in 1957 and Pierce school was constructed in 1959. These schools, with the McDonald Junior High School and the Fort Knox High School, serve the Pressler Grove, Binter Court, South Dietz Acres, North Dietz Acres, Morand Manor, and Littlefield Loop neighborhoods. The nearest buildings over 50 years old are located at the intersection of Eleventh Avenue, Gold Vault Road, and Minnesota Street. All of the historic buildings viewable from the proposed gym locations are World War II wood temporary buildings of some of the 113 types specifically documented in the study conducted by the U.S. Army Corps of Engineers Construction Engineering Research Laboratory (USACERL) (USACERL 1993; Garner 1993). These World War II wood temporary buildings are therefore exempt from Section 106 and 110 considerations.

Kingsolver Project Area

Kingsolver school was constructed in 1956, and one annex and several buildings have been added to the complex since. The Kingsolver school is located within the boundaries of a historic district (Figure C-1) which has been identified as eligible for the National Register by a team of qualified architectural historians (Grandine et al. 1994). Although the Grandine et al. (1994) study is still under review, the effect of the Kingsolver gym project on the proposed historic district must be taken into account.

The existing Kingsolver school complex consists of five buildings connected by covered walkways. The existing buildings in the Kingsolver complex are one and two story

red or red and gray brick buildings. Some of the buildings have flat roofs and some have pitched roofs. The pitched roofs are covered with tan composition shingle. It is assumed that the flat roofs are tarred. The windows in the existing buildings consist of clear glass and yellow opaque panels.

The existing buildings which are considered contributing buildings to the historic district which are within view of the proposed gym site consist of former barracks (now administrative buildings) to the north and northwest (Bldgs. 1306, 1307, 1467, and 1468), and residences to the east and south (the 1400 blocks). A small non-contributing building (Bldg. 1487), constructed in 1953, is located immediately east of Bldg. 1467 and north of the Kingsolver school. Each contributing building is individually described in Grandine et al. (1994). Since a copy of Grandine et al. (1994) is already on file at the State Historic Preservation Office, only the major characteristics of the buildings are summarized in the following paragraph.

All of the contributing buildings are Georgian Colonial Revival brick buildings constructed in the 1930's. The former barracks are three-and-a-half story red brick buildings. Roof treatments include composition shingle (Bldgs. 1306 and 1468) and clay tile (Bldgs. 1307 and 1467). It is unlikely that the Spanish clay tile roof on Bldg. 1467 is the original roof treatment, since it does not fit with the Georgian or Georgian Colonial Revival styles (McAlester and McAlester 1984: 138-151; 323-325). The residences in the block to the east of Kingsolver (Bldgs. 1430-1466) are one-and-a-half story brick duplex officers' quarters. The residences in the block to the south of Kingsolver (Bldgs. 1410-1429) are two-and-a-half story brick duplex officers' quarters. Some detached garages also exist in the block to the south of Kingsolver. Roof treatments on the residences in the two blocks include grey slate and flat red clay tile.

#### VIII. CULTURAL RESOURCES

Figures B-1 to B-4 in Appendix B depict the location, plan view, historic farmstead layout, and a representative soil profile of 15Md377. The location of the historical buildings around Kingsolver school and the proposed building specifications are shown in Figures C-1 through C-6. Color slides showing the existing Kingsolver school complex and the view to the north, west, and south from the proposed gym site will be submitted to the State Historic Preservation Office, with this report, but as a separate enclosure.

15Md377

The site is at the southwest corner of the Mudge School and extends into the south edge of the playground. There are both historic and prehistoric components. Both components were situated to the west of a shallow drainage that flowed into a sinkhole to the southeast, and there was another sinkhole to the west. The historic material was confined to several small scatters along the west side of the school. A small amount of prehistoric debitage was scattered across a 35 m by 35 m area. The area had been scraped to subsoil for school construction and there were no intact deposits. Sparse grass covered the area, but small areas had been devegetated by the patten of little feet.

The historic materials derive from the Robert Whitworth farmstead, acquired by the Army in 1919. The farmstead probably was founded by Robert's father, Thomas Whitworth. The Whitworth family is not listed in the 1870 census for either Meade or Hardin County (the county line, currently 1.2 km east of the site, has shifted over time, so the farm may have been in Hardin County at one time). Thomas Whitworth and his wife Mariah Overton Whitworth died in 1892 and 1917, respectively (McDowell 1975:186), and Robert probably took over the farm ca. 1893, when he married Maude Butler (Miller 1990:42).

Both the map evidence and the sparsity of historic materials on the site suggest that the majority of the occupation area of the farmstead was located under the existing Mudge School, so there is very little potential for intact deposits related to the Whitworth occupation. Site 15Md377 has been scraped to subsoil and there is no evidence of intact prehistoric or historic cultural deposits. The site is therefore considered not eligible for the National Register, and no additional archaeological investigations are recommended at 15Md377.

1930's Cantonment District

Grandine et al. (1994) have recommended that the 1930's cantonment district, with 181 contributing structures, be nominated to the National Register. The Kingsolver gym is the only one of the five proposed gyms which is located in this identified district. A 1950 Fort Knox topographic quadrangle shows the Post Parade Ground comprising the block in which the existing Kingsolver school lies. The 1946 aerial photograph on the back of the 1950 topo map clearly shows a baseball diamond, an oval vehicle course, and other features which suggest that this block had ceased to be a parade ground during World War II. Since the construction of the Kingsolver school in 1956, the open area has been used as the school yard.

Schenian and Mocas are qualified archaeologists, but also must manage the built resources of the installation. In recognition of their limited architectural vocabulary and experience, the exterior specifications, elevations, and landscaping plan of the proposed Kingsolver gym are included in Figures C-2 through C-5, to allow the architectural experts at the Kentucky Heritage Council/State Historic Preservation Office to better evaluate the exterior characteristics of the proposed gym. The reviewers should also refer to Grandine et al. (1994), and the color slides sent separately with this report, in evaluating the proposed gym specifications.

A no-build alternative is not feasible for the gym, because it is a facility needed in the school complex. An alternative location outside the 1930's cantonment district is not feasible, since it would be inefficient and unsafe for elementary students to walk several blocks to gym class on a regular basis.

It is recommended that the proposed Kingsolver gym will have no adverse affect on the 1930's cantonment district. The brick exterior will match the existing buildings in the Kingsolver complex and the contributing structures of the district in the vicinity. The standing metal seam roof proposed for the gym does not occur on the contributing structures within this viewshed of this building, but does occur on contributing structures elsewhere in the district (e.g., Bldg. 98). There is considerable variation in roof treatment both among the contributing buildings and elsewhere on the installation.

According to David Blandford of the Fort Knox Master Planning Office, Fort Knox has had a policy of matching exterior characteristics of new construction as closely as possible to existing vicinity buildings for at least two decades. A number of the design characteristics of the proposed gym match the characteristics more closely than some of the earlier buildings in the Kingsolver complex. These characteristics include the pitch of the roof, the decorative brickwork, the use of limestone sills, and the scale of the building.

Standing at the proposed gym location, the view of the contributing structures to the east is blocked by the existing Kingsolver school complex, and the view to the south is nearly blocked by a tree line which separates the residences from the school yard. The trees are large mixed deciduous trees and evergreens (some predating the creation of the installation), and only portions of some houses can be seen, even when the leaves have dropped. Construction of the Kingsolver gym will have some beneficial effects on the district, including the removal a portion of a badly rutted gravel parking lot and the blocking of the view from the

former barracks of a small wood shed which is in fair to poor condition.

## IX. CONCLUSIONS AND RECOMMENDATIONS

The Phase I cultural resources survey of the five proposed school gymnasium project areas in the cantonment area on the Fort Knox Military Reservation, Hardin and Meade Counties, Kentucky, resulted in the recording of one archaeological site, 15Md377, and the identification of one of the proposed gymnasiums as requiring consideration of the effects of its construction on historic standing structures.

The Scott, Pierce, and Kingsolver project areas were determined to be previously disturbed through a literature review, and were not examined for archaeological resources. A Phase I archaeological survey was conducted of the Mudge and Van Voorhis project areas, resulting in the recording of one archeological site, 15Md377, in the Mudge school gymnasium project area. Site 15Md377 is a late nineteenth century to early twentieth century farmstead with a prehistoric component of indeterminate cultural-temporal affiliation. It is not eligible for the National Register due to extensive previous disturbance, and no additional archaeological work is recommended at the site.

The proposed Scott, Pierce, Van Voorhis, and Mudge gymnasiums project areas are not located in the vicinity of any buildings over 50 years old, therefore, no effect to buildings potentially eligible for the National Register will result from their construction. The proposed Kingsolver school lies within an identified historic district which qualified architectural historians have recommended as eligible for the National Register. It is recommended that the proposed Kingsolver gym will have no adverse effect on this possible district, however. The Kingsolver gym will match the existing buildings in the Kingsolver complex, which match (in general) the exterior characteristics of nearby buildings which are contributing structures within the identified district. The proposed Kingsolver gym design more closely matches the characteristics of the former barracks, which are the closest contributing structures, than the oldest buildings in the Kingsolver complex. Existing landscaping visually separates the school complex from the contributing buildings of the district to its south and east. Construction of the Kingsolver gym will benefit the historic district by removing a portion of an unsightly gravel parking lot and by blocking the view from the Third Avenue buildings of a small wood shed.

It is recommended that the installation be permitted to construct the Mudge, Van Vorhis, Scott, Pierce, and Kingsolver gymnasiums as proposed. If archaeological materials are

discovered during the construction activities, all activity in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-6661) and the DPW staff archaeologist (502-624-6581) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

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APPENDIX A.  
RESUMES OF KEY PERSONNEL

Pamela A. Schenian  
Staff Archaeologist and Project Principal Investigator

Office Address: Directorate of Public Works  
ATTN: ATZK-DPW (Schenian)  
U.S. Army Armor Center and Fort Knox  
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Phone: (502) 624-6581

Date and Place of Birth: January 1, 1959; Waukesha, WI.

Present Position: J.M. Waller & Associates/Fort Knox Staff  
Archaeologist and Cultural Resource Manager

Education:

A.B.D. in Anthropology, Northwestern University, 1984.  
M.A. in Anthropology, Northwestern University, 1982.  
A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center,  
Department of Sociology, Anthropology, and Social Work, Mur-  
ray State University, Murray, KY, November 1991-June 1993;  
Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field  
Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field  
Assistant II (Supervisor), summer 1983; Field Technician,  
summer 1981.

Center for American Archeology, Kampsville, IL: Field  
Technician, summer 1982.

Department of Anthropology, Northwestern University,  
Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee,  
WI: Field Technician, summer 1979.

Field Research Experience:

Prehistoric and historic archaeological projects in the  
states of Illinois, Indiana, Kentucky, New Jersey, South  
Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:  
90 CRM contract reports on projects in Indiana, Kentucky,  
and Tennessee.

1 Homicide site excavation contract report prepared in lieu  
of court testimony in Illinois.

7 Papers presented at professional conferences.

5 Publications, 1 in press.

Doctoral candidacy qualifying paper: "A Theory of Individ-  
ual Style Variation for Archeological Studies".

Manuscript submitted in partial fulfillment of the M.A.  
requirements: "Models of Environmental-Cultural Relation-  
ships: Testing with Archeological Evidence".

Stephen T. Mocas  
Assistant Staff Archaeologist

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Present Position: University of Louisville Program of  
Archaeology/Fort Knox Assistant Staff Archaeologist

Education:

Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.  
B.A. in Anthropology, University of Louisville, 1971.

Previous Employment:

Indiana University, Bloomington, Indiana: Part-time  
Staff Archaeologist, September 1991-Present.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky.  
Anthropology Instructor, August 1981-December 1982.

Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.

University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

Field Research Experience:

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

Research Grants:

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:

3 non-contract site reports on projects  
22 CRM contract reports on projects  
5 Chapters in additional site reports.  
4 Publications, 1 in press.